

## ABSTRACT OF THE DISCLOSURE

[0042] A modulated Class E transmitter is disclosed. In one embodiment of the invention, the modulated Class E oscillator achieves high coil currents ( $\sim 1\text{A}$ ) and voltages ( $\sim 500\text{V}$ ) with low power components by precisely timed injection of current when the oscillating current in the inductor passes through zero. A detector circuit is used to trigger the current injection at the appropriate instant regardless of changes in the resonant frequency of the system. Its phase can be adjusted to compensate for propagation delays in the drive circuitry, while amplitude modulation is accomplished by switching in additional reactive conductance to increase the current injected into the tank circuit.